

ABSTRACT OF THE DISCLOSURE

There is provided a non-volatile semiconductor memory device exhibiting excellent electrical characteristics and a method of fabricating the same. The semiconductor device includes a semiconductor substrate having two trenches, an isolation oxide film provided in the trench, a floating gate electrode, an ONO film, and a control gate electrode. The isolation oxide film has an upper surface with a region having a curvature protruding downward. The floating gate electrode has a flat upper surface and extends from a main surface of the semiconductor substrate between the two trenches to the two isolation oxide films. The ONO film extends from the upper surface of the floating gate electrode to a side surface of the floating gate electrode. The control gate electrode is provided on the ONO film to extend from the upper surface of the floating gate electrode to the side surface of the floating gate electrode.